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Patent

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of

Mark FREIER et al.

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For: Endoscopic Sample Taker for Cartilage Material

Assistant Commissioner for Patents  
Washington, DC 20231

**PRELIMINARY AMENDMENT**

S I R:

Prior to examination of the above-identified application, amend the application as follows:

**IN THE SPECIFICATION:**

Delete page 1 in its entirety.

On page 2, after line 5, insert the following heading:

1. Field of the Invention--;

On page 2, amend the paragraph beginning on line 7 as follows:

The invention relates to an endoscopic sample taker for in particular cartilage material.

After line 9, insert the following heading beginning a new line:

2. Description of the Related Art.

Amend the paragraph beginning on line 11 as follows:

Such a sample taker is described in the German utility model 1 855 179. It consists of a hollow shank with an actuation rod axially adjustable therein, of a scoop pivotably arranged at the distal end of the hollow shank and of a scissor-like handle arranged at the proximal end of the hollow shank. This handle comprises a stationary grip part which is rigidly fastened on the hollow shank, and a movable grip part which is pivotably connected to the unmovable grip part and engages the proximal end of the actuation rod. By actuating the movable grip part the scoop by way of the actuation rod is pivoted with respect to the hollow shank so that by way of pivoting forward and back the scoop, cartilage tissue, in particular of human joints, may be released by way of abrading. The abraded cartilage particles are removed from the body by rinsing out and are complicated and difficult to extract from the rinsing fluid in order to cultivate new and reimplantable cartilage mass from this. Furthermore it has proven to be advantageous to remove the desired cartilage particles with the scoop alone from the joint or from another diseased cartilage region of a patient because the abraded cartilage particles on withdrawing the sample taker from the body cavity concerned are again to a great extent lost. A further disadvantage of this known sample taker lies in the fact that the

scoop for the abrading procedure must be set considerably transversely and thus on account of its construction and for carrying out its function it requires considerable space in the body cavity of the joint or likewise.

On page 3, amend the paragraph beginning on line 15 as follows:

The object of the invention lies in improving an endoscopic sample taker for cartilage material which with a low distal space requirement ensures a secure and quick removal of cartilage material from in particular human body cavities.

Delete line 20 in its entirety and replace with the following:

An endoscopic sample taker according to an embodiment of the present invention includes a hollow shank with a distal end and proximal end. A scoop defining a trough is fixedly connected to the distal end of the hollow shank and a handle with an actuating mechanism is connected to the proximal end of the hollow shank. An actuating rod is inserted in the hollow shank and is axially movable therein. The proximal end of the actuating rod is releasably connectable to the actuating mechanism. A covering for the trough of the scoop is connected to the actuating rod at a distal end of the actuating rod so that the covering is displaceable with the actuating rod between a closure position and an open position. The open position of the covering allows ingress of the cartilage material to said trough and the closure position prevents loss of the cartilage material from the trough.

Amend the paragraph beginning on line 22 as follows:

With this solution cartilage material may be removed without loss thereof in a secure and rapid manner from a cartilage location, e.g. from a knee joint of a patient in order to be able to be used for obtaining or cultivating new cartilage cell material which then is reimplanted at a damaged cartilage location in the body of the patient. After healthy cartilage material by way of abrading has reached the trough of the scoop from the desired cartilage location the trough by way of advancing the covering according to the invention is closed so that separated-off cartilage tissue on withdrawing the sample taker from the body of the patient may not get lost. A further advantage of the sample taker according to the invention lies in the fact that the covering for the trough of the scoop is arranged at the distal end of the sample taker in an extremely space-saving manner and by way of this demands practically very little space particularly as it is located in the non-operational position in the retracted position in the hollow shank. Furthermore it is advantageous that the covering is to be simply manufactured with very low costs.

On page 4, amend the paragraphs from lines 17 and 27 as follows:

The invention is hereinafter described in more detail by way of one embodiment example shown in the accompanying drawings in which:

Fig. 1 is a lateral view of the sample taker according to an embodiment of the present invention,

Fig. 2 is an axial section through the distal end region of the sample taker of Fig. 1; and

Fig. 3 is a part axial section through the sample taker according to Fig. 1.

Amend the paragraph beginning on line 32 as follows:

The sample taker 100 in Figure 1 according to an embodiment of the present invention comprises a hollow shank 1 with a scoop 2 which is rigidly and unreleasably fastened on a distal end of the hollow shank, and a handling means 3 with an actuating mechanism 4. The scoop 2 comprises a spoon-like or shell-like trough 5 for collecting therein cartilage material, bone material or similar hard material that is extracted from a body cavity of a living being, such as a patient, this material being obtained by way of abrading. For the purpose of abrading, the scoop has a sharp edge 2a. In the hollow shank 1 there is located an actuation rod 6 on whose distal end there is fastened a tongue-shaped covering 7 for the trough of the scoop 2 (Figure 2). The material for the covering 7 is preferably thin metal. The covering may have a strip-like form and in its covering section have a circumferential shape which corresponds to the circumferential shape or essentially to the circumferential shape of the trough 5. At the same time it is essential that the trough 5 is sufficiently covered by the covering 7 so that the gained cartilage material on retracting the sample taker 1 from the body cavity of the patient is not lost.

On page 6, amend the paragraphs beginning on lines 9 and 19 as follows:

The hollow shank 1 with the scoop 2 and the actuation rod 6 with the covering 7 form a dismountable construction unit which is releasably connected to the handling means 3. The handling means 3 comprises a hand grip 11 with a distal sleeve section 12 as a component of the actuating mechanism 4. Onto the sleeve section 12 there may be screwed a screw sleeve 13 in order to fasten the proximal end part 14 of the holding-down device 8 in the sleeve section 12. Furthermore a union nut 15 is screwable onto the proximal end of the end

component 14 in order to fasten the hollow shank 1 on the handling means 3.

The actuating mechanism 4 comprises further an external cylindrical ring 17 arranged axially displaceable on the sleeve section 12 and an inner cylindrical ring 18 rigidly fastened within the sleeve section 12 on the actuation rod 6, as well as a fastening bar 19. The bar 19 passes through the rings 17 and 18 as well as an axial elongate hole 20 of the sleeve section 12. Furthermore the bar 19 is adjustable according to the double arrow 21.

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IN THE CLAIMS:

Cancel claims 1-7 and new claims 8-14 as follows:

8. An endoscopic sample taker for collecting a sample of cartilage material, comprising:
- a hollow shank having a distal end and a proximal end;
  - a scoop fixedly connected to said distal end of said hollow shank and defining a trough;
  - a handling means connected at said proximal end of said hollow shaft and having an actuation mechanism;
  - an actuating rod having a distal end and a proximal end axially movable in said hollow shank, said distal end of said actuating rod releasably connectable with said actuation mechanism; and
  - a covering fastened proximate said distal end of said actuating rod, said covering being displaceable via said actuating rod between a closure position and an open position, wherein said open position of said covering allows ingress of the cartilage material to said trough and said closure position covers said trough to prevent loss of the cartilage material from said trough.
9. The endoscopic sample taker of claim 8, wherein said covering comprises a metal tongue.

10. The endoscopic sample taker of claim 8, wherein said trough comprises a circumferential shape and said covering has a circumferential shape that corresponds to said circumferential shape of said trough.

11. The endoscopic sample taker of claim 8, further comprising a holding-down device for guiding said covering during the displacement thereof and holding said covering at said closure position.

12. The endoscopic sample taker of claim 8, wherein said scoop comprises an edge forming said trough and said edge is inclined at an angle relative to a longitudinal axis of said hollow shank.

13. The endoscopic sample taker of claim 12, wherein said covering is made of a bendable elastic material.

14. The endoscopic sample taker of claim 1, wherein said covering comprises a front cutting edge for facilitating separation of the sample of cartilage material.



IN THE ABSTRACT:

Cancel the abstract on page 8, lines 15-24 and insert the following:

The sample taker comprises a hollow shank with a scoop fixedly connected at its distal end, a handling means provided at the proximal end of the 20 hollow shank and an actuation mechanism. An actuation rod is axially movable in the hollow shank and connectable to the actuation mechanism. A covering is allocated in the trough of the scoop. The covering is fastened to a distal end of the actuation rod and displaceable forwards and backwards.

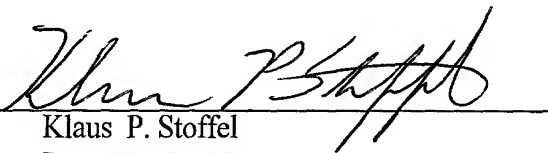
**REMARKS**

This preliminary amendment is presented to eliminate multiple dependencies in the claims and to place the application in better form for examination. No new matter has been added. Early examination and favorable consideration of the above-identified application is earnestly solicited.

Any additional fees or charges required at this time in connection with the application may be charged to our Patent and Trademark Office Deposit Account No. 03-2412.

Respectfully submitted,

COHEN, PONTANI, LIEBERMAN & PAVANE

By   
Klaus P. Stoffel  
Reg. No. 31,668  
551 Fifth Avenue, Suite 1210  
New York, New York 10176  
(212) 687-2770

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## AMENDMENTS TO THE SPECIFICATION AND CLAIMS SHOWING CHANGES

### IN THE SPECIFICATION:

On page 2, after line 5, insert the following heading:

--1. Field of the Invention--;

On page 2, amend the paragraph beginning on line 7 as follows:

--The invention [proceeds from] relates to an endoscopic sample taker for in particular cartilage material[, according to the introductory part of the patent claim 1.]--

After line 9, insert the following heading beginning a new line:

--2. Description of the Related Art--.

Amend the paragraph beginning on line 11 as follows:

--Such a sample taker is described in the German utility model 1 855 179. It consists of a hollow shank with an actuation rod axially adjustable therein, of a scoop pivotably arranged at the distal end of the hollow shank and of a scissor-like handle arranged at the proximal end of the hollow shank. This handle comprises [an unmovable] a stationary grip part which is rigidly fastened on the hollow shank, and a movable grip part which is pivotably connected to the unmovable grip part and engages the proximal end of the actuation rod. By actuating the movable grip part the scoop by way of the actuation rod is pivoted with respect to the hollow shank so that by way of pivoting forward and back the scoop, cartilage tissue, in particular of human joints, may be released by way of abrading. The abraded cartilage

particles are removed from the body by rinsing out and are complicated and difficult to extract from the rinsing fluid in order to cultivate new and reimplantable cartilage mass from this. Furthermore it has proven to be [award] advantageous to remove the desired cartilage particles with the scoop alone from the joint or from another diseased cartilage region of a patient because the abraded cartilage particles on withdrawing the sample taker from the body cavity concerned are again to a great extent lost. A further disadvantage of this known sample taker lies in the fact that the scoop for the abrading procedure must be set considerably transversely and thus on account of its construction and for carrying out its function it requires considerable space in the body cavity of the joint or likewise.--

On page 3, amend the paragraph beginning on line 15 as follows:

--The object of the invention lies in improving an endoscopic sample taker [of the above mentioned type] for cartilage material which with a low distal space requirement ensures a secure and quick removal of cartilage material from in particular human body cavities.--

Delete line 20 in its entirety and replace with the following:

--An endoscopic sample taker according to an embodiment of the present invention includes a hollow shank with a distal end and proximal end. A scoop defining a trough is fixedly connected to the distal end of the hollow shank and a handle with an actuating mechanism is connected to the proximal end of the hollow shank. An actuating rod is inserted in the hollow shank and is axially movable therein. The proximal end of the actuating rod is releasably connectable to the actuating mechanism. A covering for the trough of the scoop is

connected to the actuating rod at a distal end of the actuating rod so that the covering is displaceable with the actuating rod between a closure position and an open position. The open position of the covering allows ingress of the cartilage material to said trough and the closure position prevents loss of the cartilage material from the trough.--

Amend the paragraph beginning on line 22 as follows:

--With this solution cartilage material may be [unloseably] removed without loss thereof in a secure and rapid manner from a cartilage location, e.g. from a knee joint of a patient in order to be able to be used for obtaining or cultivating new cartilage cell material which then is reimplanted at a damaged cartilage location in the body of the patient. After healthy cartilage material by way of abrading has reached the trough of the scoop from the desired cartilage location the trough by way of advancing the covering according to the invention is closed so that separated-off cartilage [tissure] tissue on withdrawing the sample taker from the body of the patient may not get lost. A further advantage of the sample taker according to the invention lies in the fact that the covering for the trough of the scoop is arranged at the distal end of the sample taker in an extremely space-saving manner and by way of this demands practically very little space particularly as it is located in the non-operational position in the retracted position in the hollow shank. Furthermore it is advantageous that the covering is to be simply manufactured with very low costs.--

On page 4, amend the paragraphs from lines 17 and 27 as follows:

--The invention is hereinafter described in more detail by way of one embodiment example shown in the accompanying drawings[. There are shown in] in which:

[Figure] Fig. 1 is a lateral view of the sample taker according to an embodiment of the present invention,

[Figure] Fig. 2 is an axial section through the distal end region of the sample taker of Fig. 1; and

[Figure] Fig. 3 is a part axial section through the sample taker according to [Figure] Fig. 1.--

Amend the paragraph beginning on line 32 as follows:

The sample taker [indicated generally at 1]100 in Figure 1 according to an embodiment of the present invention comprises a hollow shank 1 with a scoop 2 which is rigidly and unreleasably fastened on [the] a distal end of the hollow shank, and a handling means 3 with an actuating mechanism 4. The scoop 2 comprises a spoon-like or shell-like trough 5 [into which gets] for collecting therein cartilage material, bone material or similar hard material that is extracted from a body cavity of a living being, [preferably] such as a patient, this material being obtained by way of abrading. For [this] the purpose of abrading, the scoop has a sharp edge 2a. In the hollow shank 1 there is located an actuation rod 6 on whose distal end there is fastened a tongue-shaped covering 7 for the trough of the scoop 2 (Figure 2). The material for the covering 7 is preferably thin metal. The covering may [be formed] have a strip-like form and in its covering section have a circumferential shape which corresponds to the circumferential shape or essentially to the circumferential shape of the trough 5. At the same time it is essential that the trough 5 is sufficiently covered by the covering 7 so that the gained cartilage material on retracting the sample taker 1 from the body

cavity of the patient is not lost.--

On page 6, amend the paragraphs beginning on lines 9 and 19 as follows:

--The hollow shank 1 with the scoop 2 and the actuation rod 6 with the covering 7 form a dismountable construction unit which is releasably connected to the handling means 3. The handling means 3 comprises a hand grip 11 with a distal sleeve section 12 as a component of the actuating mechanism 4. Onto the sleeve section 12 there may be screwed a screw sleeve 13 in order to fasten the proximal end part 14 of the holding-down device 8 in the sleeve section 12. Furthermore a union nut 15 is screwable onto the proximal end of the end component 14 in order to fasten the hollow shank 1 on the handling means 3.--

--The actuating mechanism 4 comprises further an external cylindrical ring 17 arranged axially displaceable on the sleeve section 12 and an inner cylindrical ring 18 rigidly fastened within the sleeve section 12 on the actuation rod 6, as well as a fastening bar 19. The bar 19 passes through the rings 17 and 18 as well as an axial elongate hole 20 of the sleeve section 12. Furthermore the bar 19 is adjustable according to the double arrow 21.--